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Jean C. Baker

Attorney of Record

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Philippe Seguela, et al.  
Serial No.: 09/530,233  
Filed: April 30, 2000  
For: DNA ENCODING A HUMAN PROTON GATED ION  
CHANNEL AND USES THEREOF  
Group Art Unit: --  
Examiner: --

Commissioner For Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

Pursuant to 37 C.F.R. 1.98, enclosed herewith are documents which the Applicants in the above-identified patent application wish to bring to the attention of the Examiner for consideration in connection with the examination on the merits of this patent application.

Foreign Patents

PCT; 97 01577 A; 10.01.97.

PCT; 98 35034 A; 13.08.98.

PCT; 98 54316 A; 03.12.98.

### Other Documents

Adams, C.M., et al. (1998). "Ripped Pocket and Pickpocket, Novel *Drosophila* DEG/ENaC Subunits Expressed in Early Development and in Mechanosensory Neurons". J. Cell. Biol. 140:143-152.

Babinski, K., et al. (1999). "Molecular Cloning and Regional Distribution of a Human Proton Receptor Subunit with Biphasic Functional Properties". J. Neurochem. 72:51-57.

Bassilana, F., et al. (1997). "The Acid-sensitive Ionic Channel Subunit ASIC and the Mammalian Degenerin MDEG Form a Heteromultimeric H<sup>+</sup>-gated Na<sup>+</sup> Channel with Novel Properties". J. Biol. Chem. 272:28819-28822.

Bertrand, D., et al. (1991). "Electrophysiology of Neuronal Nicotinic Acetylcholine Receptors Expressed in *Xenopus* Oocytes Following Nuclear Injection of Genes or cDNAs." In: Methods in Neurosciences (Conn, M.P., ed.). Academic Press Inc. New York, pp. 174-193.

Bevans, S. and Winter, J. (1995). "Nerve Growth Factor (NGF) Differentially Regulates the Chemosensitivity of Adult Rat Cultured Sensory Neurons". J. Neurosci. 15:4918-4926.

Bevans, S. and Yeats, J. (1991). "Protons Activate a Cation Conductance in a Sub-population of Rat Dorsal Root Ganglion Neurons". J. Physiol. 433:145-161.

Canessa, C.M., et al. (1994). "Amiloride-sensitive Epithelial Na<sup>+</sup> Channels Is Made of Three Homologous Subunits". Nature 367:463-467.

Chen, C.C., et al. (1998). "A Sensory Neuron-specific, Proton-gated Ion Channel". Proc. Natl. Acad. Sci. USA 95:10240-10245.

Corey, D.P. and Garcia-Anoveros, J. (1996). "Mechanosensation and the DEG/ENaC Ion Channels". Science 273:323-324.

Coscoy, S., et al. (1998). "The Phe-Mét-Arg-Phe-Amide-activated Sodium Channel Is a Tetramer". J. Biol. Chem. 273:8317-8322.

Dray, A. and Perkins, M. (1993). "Bradykinin and Inflammatory Pain". Trends Neurosci. 16:99-104.

Firsov, D., et al. (1998). "The Heterotetrameric Architecture of the Epithelial Sodium Channel (ENaC)". EMBO J. 17:344-352.

Garcia-Anoveros, J., et al. (1997). "BNaC1 and BNaC2 Constitute a New Family of Human Neuronal Sodium Channels Related to Degenerins and Epithelial Sodium Channels". Proc. Natl. Acad. Sci. USA 94:1459-1464.

Ishibashi, K. and Marumo, F. (1998). "Molecular Cloning of DEG/ENaC Sodium Channel cDNA From Human Testis". Biochem. Biophys. Res. Comm. 245:589-593.

Krishtal, O.A. and Pidoplichko, V.I. (1981). "A Receptor for Protons in the Membrane of Sensory Neurons May Participate in Nociception". Neuroscience 6:2599-2601.

Krishtal, O.A., et al. (1987). "Rapid Extracellular pH Transients Related to Synaptic Transmission in Rat Hippocampal Slices". Brain Res. 436:352-356.

Lindahl, O. (1974). "Pain-A General Chemical Explanation". Adv. Neurol. 4:45-47.

Lingueglia, E., et al. (1995). "Cloning of the Amiloride-sensitive FMRF Amide Peptide-gated Sodium Channel". Nature 378:730-733.

Lingueglia, E., et al. (1997). "A Modulatory Subunit of Acid Sensing Ion Channels in Brain and Dorsal Root Ganglion Cells". J. Biol. Chem. 272:29778-29783.

North, R.A. (1996). "Families of Ion Channels with Two Hydrophobic Segments". Curr. Op. Cell Biol. 8:474-483.

Price, M.P., et al. (1996). "Cloning and Expression of a Novel Human Brain Na<sup>+</sup> Channel". J. Biol. Chem. 271:7879-7882.

Snyder, P.M., et al. (1998). "Electrophysiological and Biochemical Evidence that DEG/ENaC Cation Channels Are Composed of Nine Subunits". J. Biol. Chem. 273:681-684.

Tavernarakis, N., et al. (1997). "*unc-8*, a DEG/ENaC Family Member, Encodes a Subunit of a Candidate Mechanically

Gated Channel that Modulates *C. elegans* Locomotion". Neuron 18:107-119.

Ugawa, S., et al. (1998). "Receptor that Leaves a Sour Taste in the Mouth". Nature 395:555-556.

Waldmann, R., et al. (1996). "The Mammalian Degenerin MDEG, an Amiloride-sensitive Cation Channel Activated by Mutations Causing Neurodegeneration in *Caenorhabditis elegans*". J. Biol. Chem. 271:10433-10436.

Waldmann, R., et al. (1997). "Molecular Cloning of a Non-inactivating Proton-gated Na<sup>+</sup> Channel Specific for Sensory Neurons". J. Biol. Chem. 272:20975-20978.

Waldmann, R., et al. (1997). "A Proton-gated Cation Channel Involved in Acid-sensing". Nature 386:173-177.

Waldmann, R and Lazdunski, M. (1998). "H<sup>+</sup>-gated Cation Channels: Neuronal Acid Sensors in the NaC/DEG Family of Ion Channels". Curr. Op. Neurobiol. 8:418-424.

Weille, J.R., et al. (1998). "Identification, Functional Expression and Chromosomal Localization of a Sustained Human Proton-gated Cation Channel". FEBS Lett. 433:257-260.

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Respectfully submitted,  
Philippe Seguela, et al.

August 18, 2000

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